1988

Stressors of Coronary Artery Bypass Surgery as Perceived by Patients and Nurses

Jennifer Troutman
Loyola University Chicago

STRESSORS OF CORONARY ARTERY BYPASS SURGERY AS PERCEIVED BY PATIENTS AND NURSES

by

Jennifer Troutman

A Thesis Submitted to the Faculty of the Graduate School of Loyola University of Chicago in Partial Fulfillment of the Requirements for the Degree of Master of Science in Nursing

December

1988

ACKNOWLEDGMENTS

I wish to thank Dr. Anne Jalowiec, the director of my thesis committee, and Ms. Judi Jennrich, member of my thesis committee, for all the support and guidance they have given me in completing my thesis.

I wish also to thank my parents, Paul and LaVerne Troutman, for all the support they have given me during the thesis period.

VITA

The author, Jennifer Susan Troutman, is the daughter of Paul Henry Troutman and LaVerne (Wartluft) Troutman. She was born January 12, 1959, in Schenectady, New York.

Her elementary education was obtained in the public schools of Upper Arlington, Ohio. Her secondary education was completed in 1977 at Indian Hill High School, Cincinnati, Ohio.

In September, 1977, Ms. Troutman entered Duke University School of Nursing, receiving the degree of Bachelor of Science in Nursing in May, 1981.

In September, 1981, Ms. Troutman was employed at Rush-Presbyterian-St. Luke's Medical Center, Chicago, Illinois as a staff nurse. She worked on the surgical cardiovascular unit until February, 1985, when she transferred to Emergency Services.

In January, 1986, Ms. Troutman entered Loyola University of Chicago, with the goal of obtaining a Master of Science in medical/surgical nursing with an emphasis in cardiovascular nursing. In 1988, Ms. Troutman was inducted into Sigma Theta Tau, the International Honor Society of Nursing.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDICES

CHAPTER I

PROBLEM STATEMENT

Coronary artery bypass (CAB) surgery is currently the major therapeutic modality for coronary artery disease. The American Heart Association (1988) estimated that 230,000 CAB surgeries were performed in 1985.

Patients undergoing CAB surgery experience two main types of stressors: (1) stress related to having coronary artery disease, and (2) stress related to being hospitalized and having CAB surgery. Patients may experience stressors of which nurses are not aware, or that nurses do not consider potential stressors; therefore, nurses' perceptions of CAB patients' stressors would influence nursing interventions and patient care and teaching. For this study, stressors were defined as either hospital-related or illness-related items or situations that may have caused concern for CAB patients. Nurses need to be aware of patient stressors so they can address them and plan appropriate therapeutic interventions.

Purpose of Study

Therefore, the overall purpose of this study was: (1) to compare patient and nurse perceptions of stressors associated with CAB surgery, and (2) to replicate Carr and

Powers' (1986) study which identified stressors of CAB surgery as perceived by patients and nurses. Research questions addressed in this study were:

1. what was the severity of CAB stressors as perceived by patients;
2. what was the severity of CAB stressors as perceived by cardiovascular nurses;
3. was there a significant difference in the severity of the stressors dependent upon who described them;
4. was there a relationship between the amount of stress experienced by CAB patients and selected demographic and illness-related variables; and
5. was there a relationship between nurses' perceptions of the stressors experienced by CAB surgery patients and selected demographic variables?

CHAPTER II

LITERATURE REVIEW

Conceptual Framework

Stress has been viewed in many ways. Hans Selye (1965) stated: "Stress is not always due to something bad, nor is it always bad for you" (p. 97). Selye also documented that stress-producing illnesses include coronary artery disease, ulcers, and migraine headaches. For patients who are already experiencing a stress-related illness, it is important for nurses to try to help to decrease the amount of stress these patients are experiencing.

"Stress is a product of conflicts among relationships, aroused in the course of living" (Lazarus, 1984, p. 235). Lazarus (1966) further suggests that stress is not a single variable but a rubic consisting of many variables and processes. He later adds that "a stimulus is a stressor when it produces a stressful behavior or physiologic response, and a response is stressful when it is produced by a demand, harm, threat, or load" (1984, p. 15). Thus, a person does not become ill merely as a result of noxious agents in the environment but as a result of being vulnerable to those agents (Lazarus, 1984).

What items or situations cause stress vary widely

among people. Lazarus suggests that culture and social structures alone do not account for how people cope with stress. Rather, Lazarus (1984) says:

> he or she is also a distinctive individual with preformed and constantly re-forming belief systems, patterns of commitment, and often obscure agendas. Historical or developmental influences help us explain why people are what they are, but they are distal variables. The more proximal variables, such as the beliefs and commitments that shape cognitive appraisals in every situation, as well as the demands, constraints, and resources of the immediate social environment, are what help us understand and predict a person's sources of stress and ways of coping. (p. 233)

"Psychological stress is a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his resources and endangering his well-being" (Lazarus, 1984, p. 19). Many of the situations encountered in the hospital are psychological stressors, some of which have never been encountered before. This may cause the person to feel greater stress. However, Lazarus (1984) suggests that most situations are not completely novel:

> Certain facets will be familiar or there will be a general resemblance between the situation and some previous events. This general knowledge enables one person to understand and interpret another's behavior simply because the other person has certain standard needs and lives in a world with certain standard methods of getting those needs fulfilled. (p. 84)

Lazarus (1984) suggests that predictable shock is less aversive than unpredictable or unsignaled shock. As a result, knowing what some of the major stressors are going to be is important for people being hospitalized and

undergoing surgery. Knowing beforehand what can be expected or experienced is beneficial for anticipatory coping processes. Nurses are usually the ones who help prepare patients facing surgery. But nurses need to know themselves what are the greatest stressors associated with CAB surgery; they can then share these stressors with the patient so that the patient can initiate anticipatory coping processes.

Review of Relevant Studies

Few nursing studies have tried to identify perceived stressors of patient populations and nurse perceptions of those same stressors. Some studies have dealt with stressors related to hospitalization. Carr and Powers (1986) studied stressors associated with coronary artery bypass patients. These stressors were ranked by both CAB patients (N = 30) and their nurses (N = 18). Significant differences were found between patient-reported stressors and nurse-perceived stressors. Overall, nurses rated items as more stressful than did patients. Carr and Powers suggest that this may result from nurses using a broader base of comparison than the patient who rated his own personal stressors. Carr and Powers' stressor scores were also related to selected demographic and illness variables. Patients with a longer preoperative hospitalization had higher stressor scores, and higher New York Heart

Association functional scores also related to higher stressor scores. Carr and Powers conclude that nurses need to become aware of differences in CAB stressors so that individual patient needs can be better evaluated and addressed.

Volicer (1973, 1974) studied patients' (N = 263) perceptions of stressors associated with hospitalization; 45 stress-producing events related to hospitalization were identified. Patients on surgical, medical, and oncology units as well as non-hospitalized individuals were asked to rank the order in which they found the items to be stress-producing. The correlation between stress-producing items was high (.88) among all four groups of subjects.

Stanton, Jenkins, Savageau, Harken, and Aucoin (1984) studied patient (N = 249) education and adjustment after cardiac surgery. They discovered that most patients felt that they had received adequate preparation in resumption of exercise, activities to avoid, and when to return to work. Patients identified that more emphasis needed to be placed on the areas of sexual functioning, possible postoperative physical and emotional changes, and changes in the way other people may respond to them at home. Patients also felt that families tried to overprotect them. Based on this, Stanton et al. suggested that patient education programs needed to place more emphasis on the areas which patients identified as problematic, which

would help decrease patient anxiety and stress levels. Therefore, there is a need to systematically assess patients' perceptions of illness-related stressors.

Wilson (1987) examined the incidence of impaired psychologic response (IPR) in surgical intensive care patients (N = 38) to determine if there was a relationship between the psychologic response to the surgical intensive care unit and self-identification of stressors. Patients ranked 22 items according to the amount of stress caused by each item while in the intensive care unit. The three highest stressors were: (1) pain; (2) not being able to move freely; and (3) frequent interruptions of sleep. Patients who developed IPR had a higher mean score for all items than did patients who did not develop IPR. Wilson recommends that nurses become more aware of stressors so they can help patients maintain more psychological stability while in the surgical intensive care unit.

Hoffman, Donckers, and Hauser (1978) developed a tool to determine which items were stressful to patients (N = 50) in a coronary care unit (CCU). Sixteen items were rated by CCU patients as to the amount of stress caused by each item. Seven items (visiting hours, sleep interruption, light on in the room, noise in the unit, loss of track of time and day, and amount of time spent by nurses with patients) were factors that were amenable to nursing interventions. After the stressor tool was completed by

the patients, nurses attended classes on stress and ways to decrease stress for their patients. One week after the classes, levels of stress of CCU patients were measured again. The levels of stress were lower for each item even when other factors (related diagnoses, medication taken at home, and CCU complications) were taken into account. The researchers concluded that nursing interventions were the key in decreasing the level of patient stress.

Volicer and Burns (1977) wanted to determine if there was a relationship between selected demographic variables and the level of hospital stress reported by patients. Both medical (N = 252) and surgical (N = 216) patients were included and the groups analyzed separately. Volicer and Burns found that the significant predictors of hospital stress for medical patients were: age, number of previous hospitalizations, number of years since their last hospitalization, and their pain score. For surgical patients, significant predictors of hospital stress were age, sex, life stress and pain score. In both groups, hospital stress decreased as age increased. The investigators suggest that these variables can easily be ascertained during the nursing admission history. Potential risk factors for increased hospital stress could be identified, and appropriate nursing interventions initiated.

Davis (1978) asked patients (N = 30) who had been

admitted to the coronary care unit to react to a list of potential stressors and identify how much stress each factor had caused them. Nurses who worked in the CCU (N = 12) were also asked to determine how much stress each factor caused their patients. The patients identified seven factors as being stressful; the most stressful factor for patients was being admitted to the coronary care unit. This factor was ranked fourth by nurses. The nurses rated 15 out of the 18 factors as being stressful. The most stressful factor, according to the nurses, was the patients not knowing or understanding their illness or its seriousness; this factor was ranked third by the patients. Davis found that stress levels predicted by nurses were significantly higher than the levels reported by patients.

O'Malley and Menke (1988) studied patients (N = 7) 4 to 7 days after they had experienced their first myocardial infarction to determine the degree of stress and hope demonstrated by those patients. Patients were asked to rank the amount of stress caused by certain items. Patients felt that the following factors caused the most stress: knowing they have a serious illness, missing their spouse (because of restricted visiting hours), and having an unplanned hospitalization.

A review of nursing research revealed few studies that documented the similarities or differences between patient-identified stressors and nurse-perceived stressors for

patient populations. Most of these studies have not had their findings replicated. Therefore, more research needs to be done on differences between patient-identified and nurse-perceived stressors and the implications that this holds for patient teaching. Further, findings need to be replicated to develop and substantiate the scientific base for nursing practice.

CHAPTER III

METHODOLOGY

Five questions were addressed in this study: (1) what was the severity of CAB stressors as perceived by patients; (2) what was the severity of CAB stressors as perceived by cardiovascular nurses; (3) was there a significant difference in the severity of the stressors dependent upon who described them; (4) was there a relationship between selected demographic and illness-related variables and the amount of stress experienced by CAB patients; and (5) was there a relationship between selected demographic variables and nurses' perceptions of stressors experienced by CAB patients?

Research Site

The study was conducted at a 1000-bed, private medical center in a large Midwestern city where approximately 10 CAB procedures are performed per week. CAB patients are taken to the surgical intensive care unit (SICU) immediately after surgery. After 48 to 72 hours, patients without complications are transferred to the surgical cardiovascular unit. This is the unit where the patient study was done; patients are generally discharged from that unit 8 to 12 days postoperatively.

Patient Sample

General eligibility criteria for study participation were: male or female CAB patients of any race, alert and oriented, able to speak and read English, and having no psychiatric illness. Medical criteria were: no other surgical procedures done concurrently with the CAB surgery, SICU stay of less than 72 hours, and no major surgical complications. Thirty-six CAB patients met both general and medical eligibility criteria and were included in the study; 5 of the 36 patients had had previous CAB surgery. Five patients who were approached refused to participate in the study; they didn't feel well enough to participate.

Figure 1 indicates that 75% of the patients in the sample were male. Age of the patients ranged from 29 to 80 years (Figure 2), with a mean of 65.3 years. Years of education completed by the patients ranged from sixth grade through the doctoral level (Figure 3), with a mean of 13.2 years (one year of college). The majority of patients were Caucasian (83%) and married (75%). Half of the group (50%) were retired. Of the 36% of the patients still working, 19.4% of those patients had white-collar jobs and the other 16.6% were employed in blue-collar jobs. Of the remaining 13.8% of the patients, 8.3% of the patients were housewives and 5.5% of the patients were on public aid.

The number of days between cardiac catheterization and CAB surgery ranged from 1 to 30 days (Figure 4), with a

Figure 1

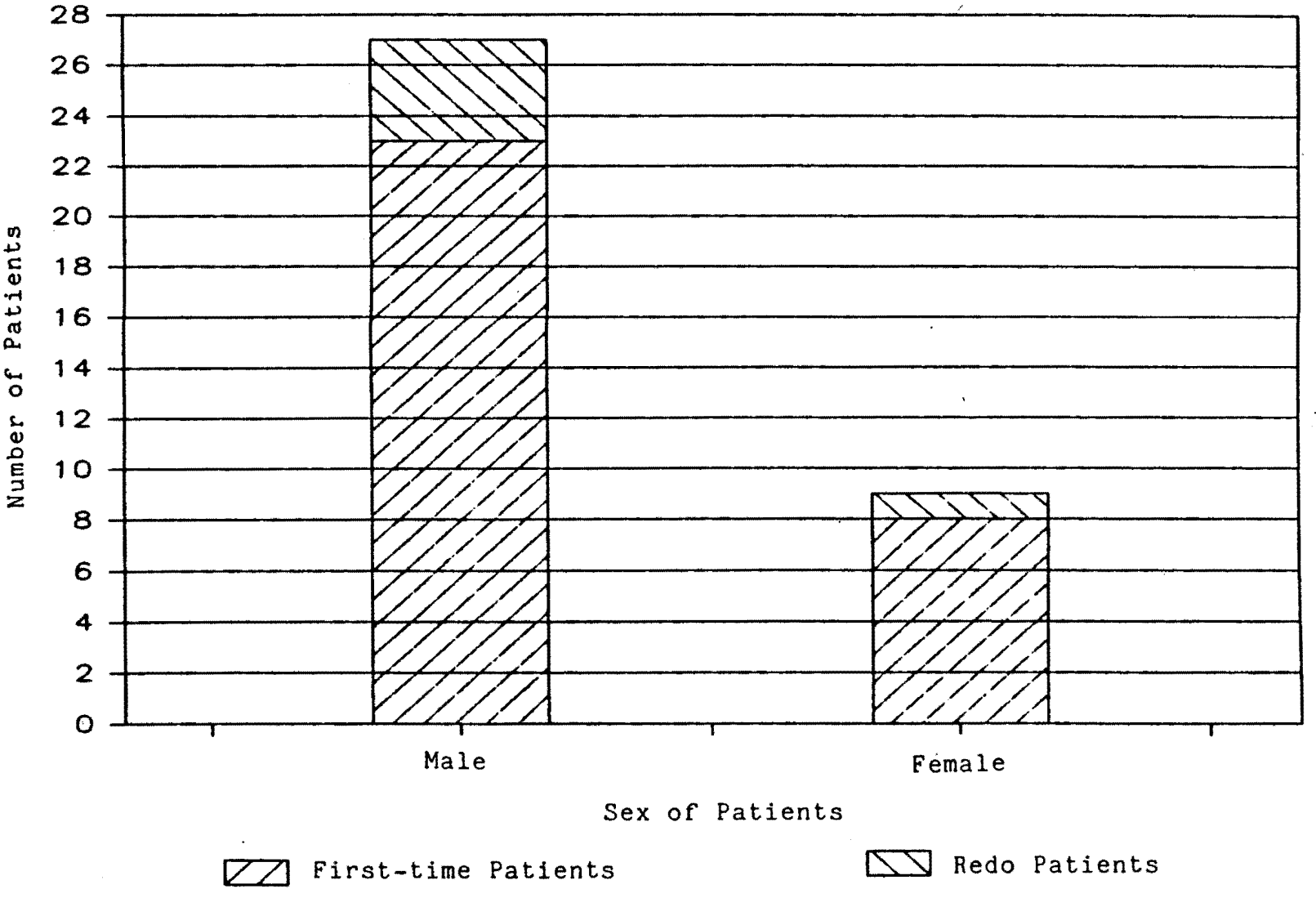

SEX OF PATIENT
Number of Patients
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
Male
Female
Sex of Patients
First-time Patients
Redo Patients

Figure 2

AGE OF PATIENTS

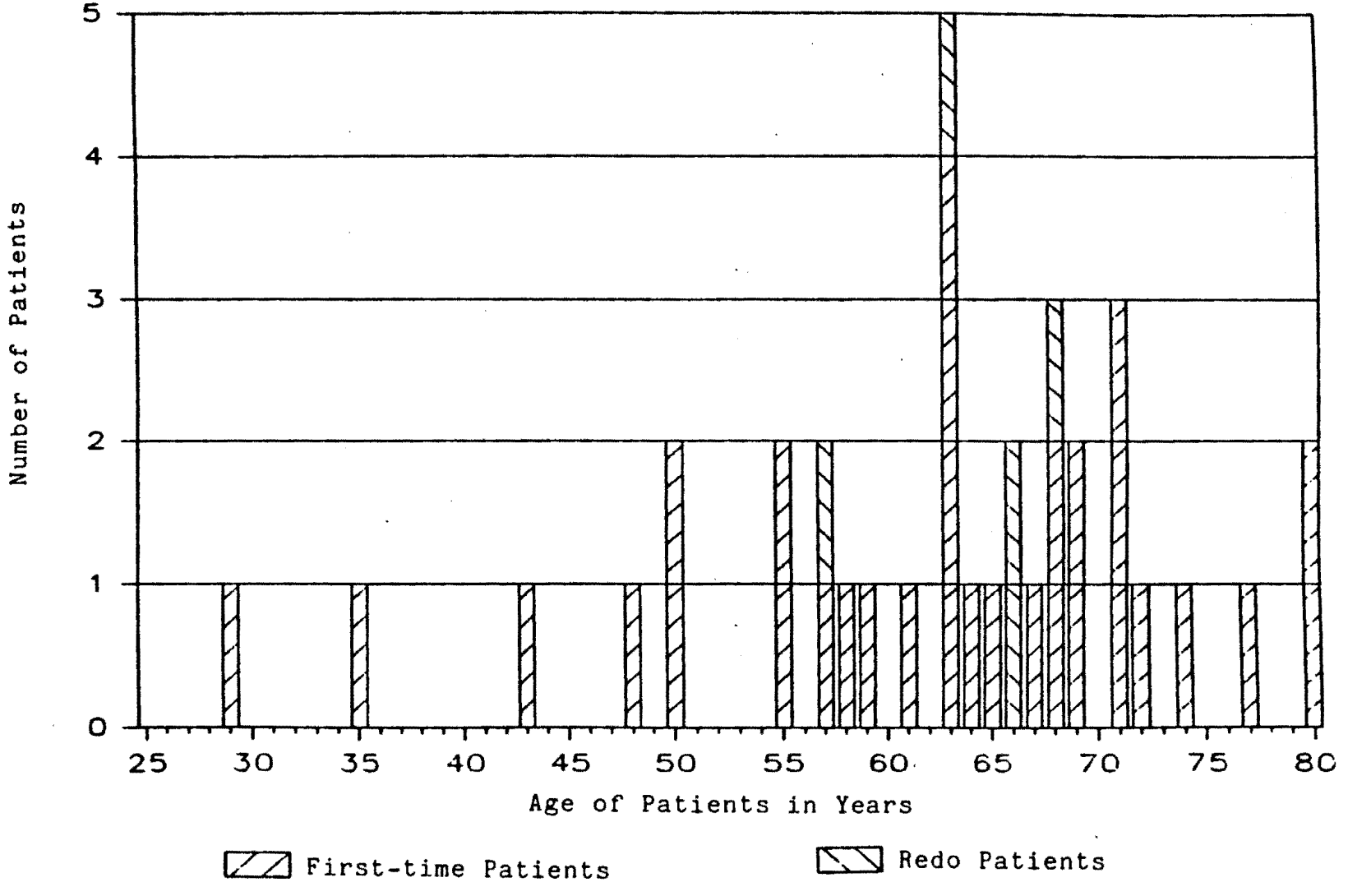


Figure 3

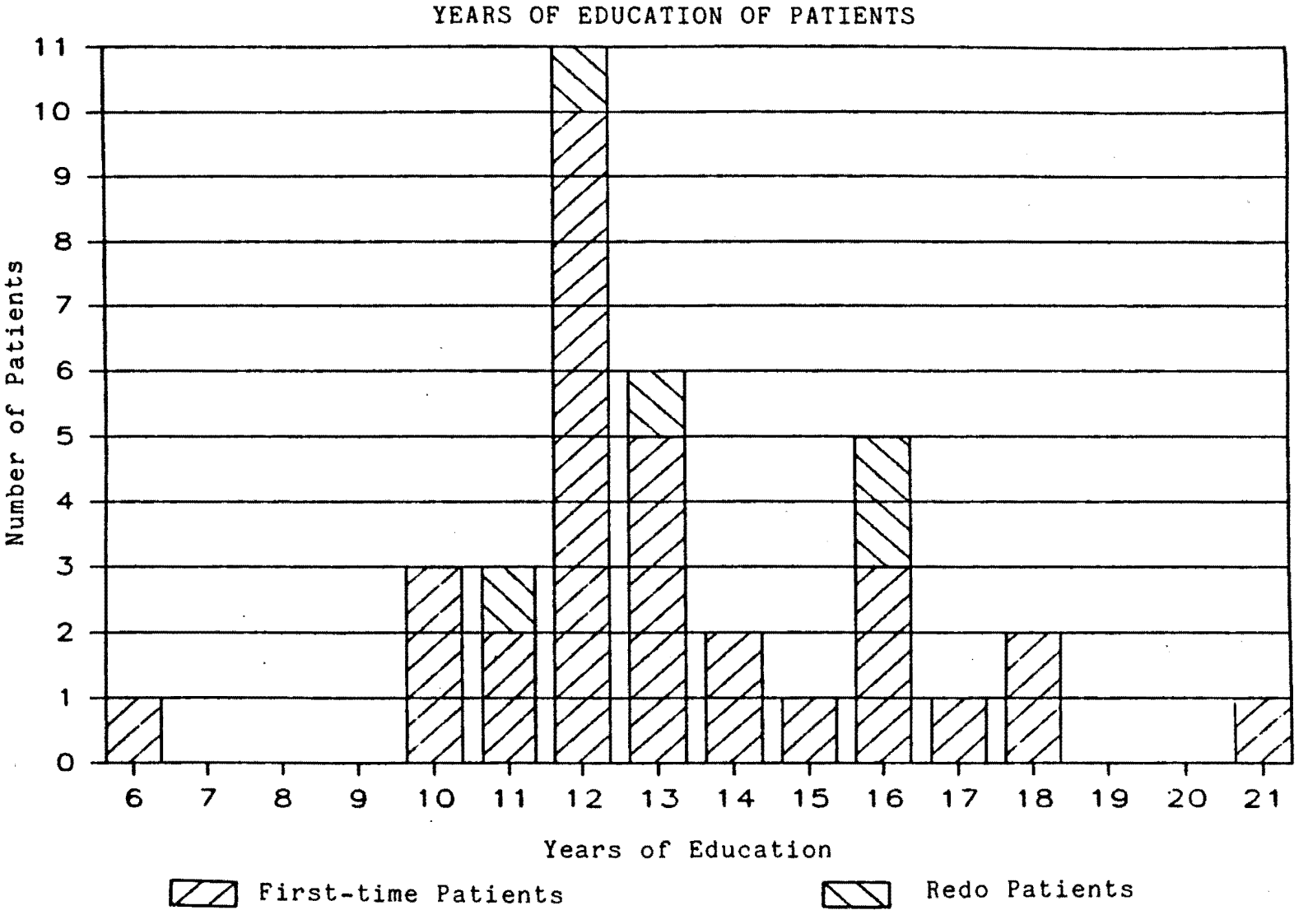
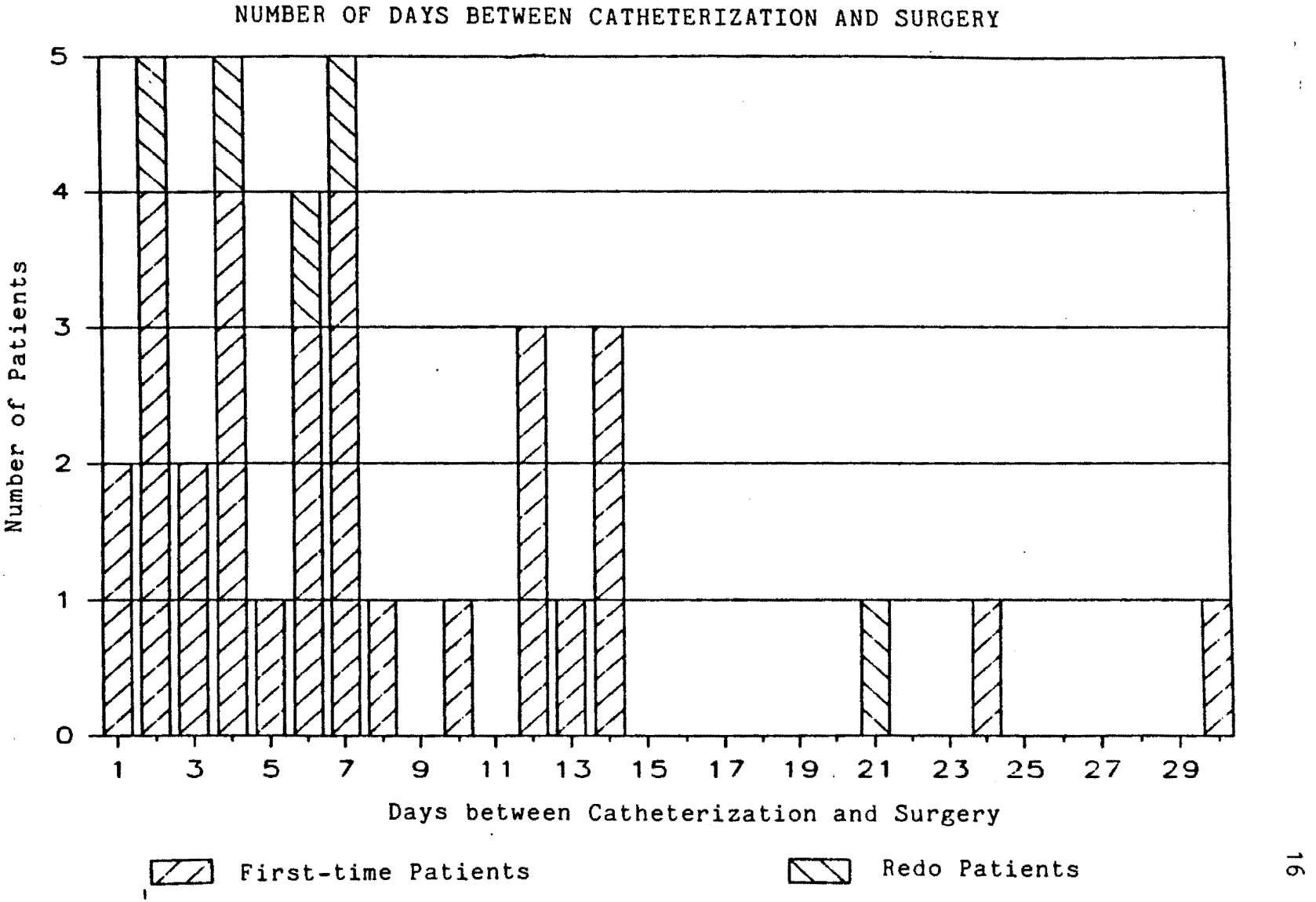

YEARS OF EDUCATION OF PATIENTS
Number of Patients
0
1
2
3
4
5
6
7
8
9
10
11
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
Years of Education
First-time Patients
Redo Patients

Figure 4


NUMBER OF DAYS BETWEEN CATHETERIZATION AND SURGERY
Number of Patients
0
1
2
3
4
5
1
3
5
7
9
11
13
15
17
19
21
23
25
27
29
Days between Catheterization and Surgery
First-time Patients
Redo Patients

mean of 7.9 days. The number of days patients were admitted preoperatively ranged from 1 to 22 (Figure 5), with a mean of 3.94. Many patients (47.2%) were admitted the day before surgery; the majority of patients (86%) had surgery within one week of being admitted. The number of days between surgery and discharge ranged from 7 to 12 (Figure 6), with a mean of 9.4. One patient in the study died 6 days postoperatively of ventricular tachycardia.

Nurse Sample

Twenty-three Registered Nurses who had worked on the surgical cardiovascular unit for at least 6 months were asked to participate in the study. Seven nurses chose not to participate. Nurses from all three shifts were included in the sample.

Ages of the nurses ranged from 23 to 51 years, with a mean of 30.9 years. The majority of the nurses were female (87%), married (52%) and bachelors degree prepared (74%). The length of time that the nurses had been employed in nursing ranged from 6 months to 24 years, with a mean of 6.2 years. The length of time the nurses had worked on a cardiovascular unit ranged from 6 months to 15 years, with a mean of 5.4 years. Four different levels of nursing practice are seen at this medical center: from A, novice, to D, expert. Nurses in this sample ranged from A to C; 57% of the nurses were Bs, the more experienced RNs.

Figure 5

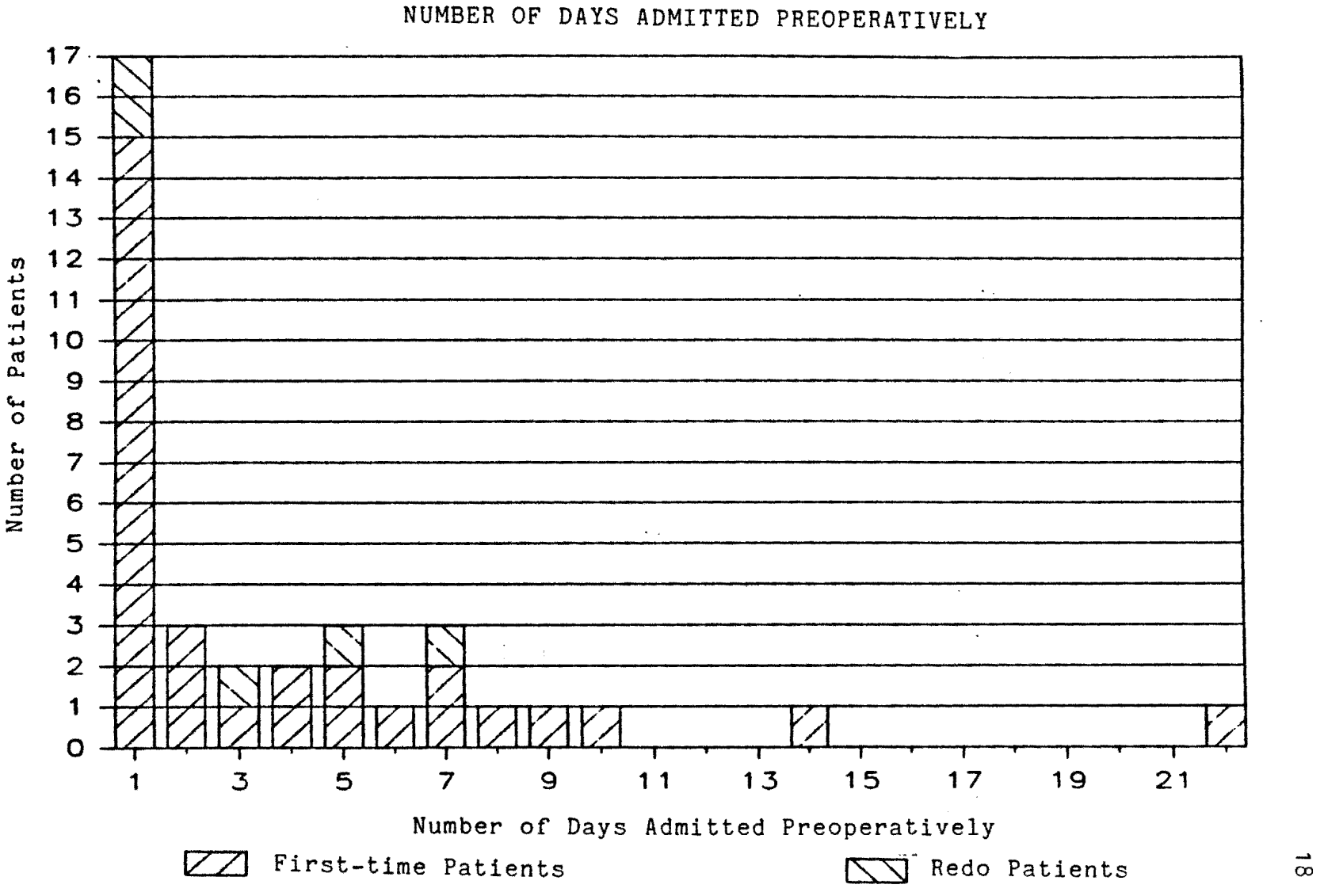
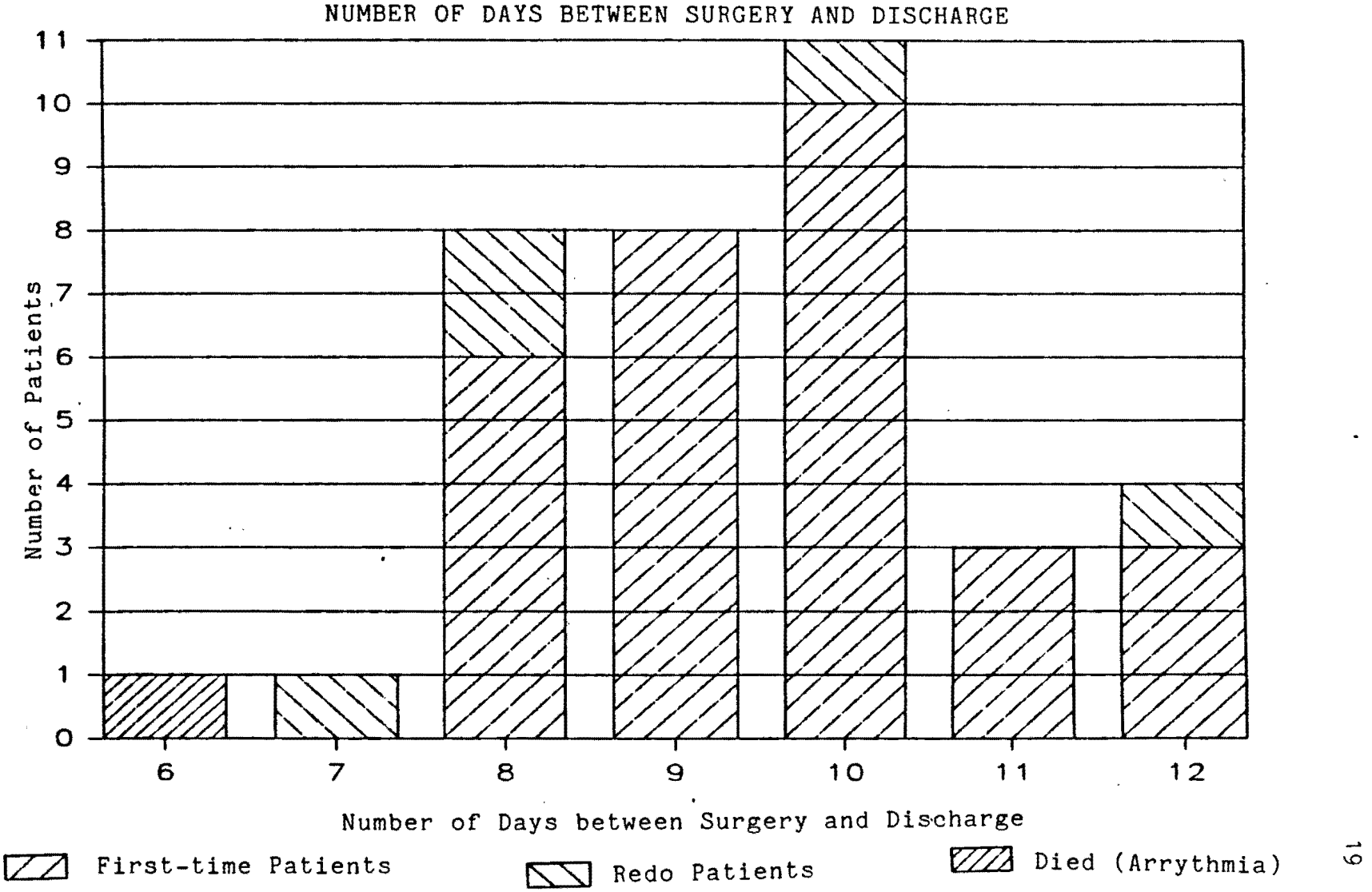

NUMBER OF DAYS ADMITTED PREOPERATIVELY
Number of Patients
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
1
3
5
7
9
11
13
15
17
19
21
Number of Days Admitted Preoperatively
First-time Patients
Redo Patients

Figure 6


NUMBER OF DAYS BETWEEN SURGERY AND DISCHARGE
Number of Patients
0
1
2
3
4
5
6
7
8
9
10
11
6
7
8
9
10
11
12
Number of Days between Surgery and Discharge
First-time Patients
Redo Patients
Died (Arrythmia)

Stressor Scale

Patients were asked to complete a modified version of the Carr Stressor Scale (Carr & Powers, 1986). The original Carr Stressor Scale contained 30 items; seven additional items were added to the scale for this study after a review of the literature (Appendix A). These items were: (1) receiving blood transfusions, (2) the number of tests performed, (3) how your family/significant others are managing while you're hospitalized, (4) how your incision looks, (5) worrying about depending on others when you go home, (6) different nurses caring for you, and (7) the thought of going home.

Each of the items was classified as either a potential hospital-related or illness-related stressor. Items were hospital-related stressors if the factor or situation resulted from being in the hospital or having surgery, and illness-related if it resulted from having coronary artery disease. There were 22 hospital-related stressors and 15 illness-related stressors. Patients were asked to rate the amount of stress they were experiencing from each factor while they were in the hospital. A 5-point Likert scale was used with each item, which ranged from 1 (no stress) to 5 (excessive stress). Scores on the stressor scale could range from 37 to 185.

Patients were also given the option of adding more stressors at the end of the list, and then rating the

degree of stress caused by them. Stressors added by the patients were:

1. the amount of noise in SICU (2 patients);
2. transportation between room and X-ray (2 patients);
3. having to cough and deep breathe (2 patients);
4. no bowel movement (1 patient);
5. poor television and phone access (1 patient);
6. removal of tubes and stitches (1 patient);
7. being suctioned (1 patient);
8. poor communication between physicians (1 patient);
9. length of time spent in the SICU (1 patient); and
10. resuming chores at home (1 patient).

Content validity for each of the 30 original items was determined by Carr and Powers (1986). For the original tool, stressors were identified from a review of the literature, and then six cardiovascular clinical nurse specialists determined the relevancy of each item for CAB patients. Agreement on relevancy of the items between clinical nurse specialists was 91%.

For a CAB patient sample (N = 30), initial alpha reliabilities were .92 for the total scale, .87 for the hospital-related items, and .88 for illness-related items. Alphas for a cardiovascular nurse sample (N = 18) were .88 for the total scale, .84 for the hospital-related items, and .75 for illness-related items (Carr & Powers, 1986).

In this study, alpha reliabilities for both the patients and nurses combined were .96 for the total scale, .91 for the illness-related stressors, and .94 for hospital-related stressors. Alphas for the CAB patient sample were .94 for the total scale, .85 for the illness-related stressors, and .91 for the hospital-related stressors. Alphas for the cardiovascular nurse sample were .93 for the total scale, .91 for the illness-related stressors, and .89 for the hospital-related stressors. Therefore, homogeneity reliability of the total scale and of the two subscales is supported by these results.

Patient Data Collection Procedure

Patients were identified through chart review after their transfer to the surgical cardiovascular unit; the patients were then approached 2 to 3 days after their transfer in their room while no visitors were present. Patients were told that it would take 20 to 30 minutes to complete the Stressor Scale.

The investigator collected the information on the patient demographic variables at this point (Appendix B). (Information not known by the patient was obtained from the patient's chart.) Patients were then asked to read the directions on the Stressor Scale with the investigator present to ensure understanding of the directions. Patients were given the option of completing the Stressor Scale with the investigator present or later at their

convenience; most completed the scale later.

After the Stressor Scale was completed, the patient was asked to place the Stressor Scale in a numbered envelope. (The number was only used to determine who had returned the Stressor Scale.) If the investigator was not present, the patient asked his/her nurse to place the sealed envelope in a predesignated spot in the nursing station for later pick-up by the investigator.

Nurse Data Collection Procedure

Nurses were approached to participate in the study only after the patient data had been collected; this was done to avoid biasing the data. Nurses were approached at the end of a unit meeting to participate in the study. The purpose of the study, risks (none), and benefits were all explained. Nurses were asked to complete the scale based on their overall experience and not based on individual patients. The investigator explained that the Stressor Scale should take 20 to 30 minutes to complete. Nurses were asked to sign a Nurse Information and Consent Sheet (Appendix C). They were also asked to complete and return the Stressor Scale as soon as possible. When they had completed the demographic data sheet and the Stressor Scale, they were asked to insert the forms in a numbered envelope, and return the envelope to the investigator (Appendix D). Nurses who were not present at the unit

meeting were approached individually and asked to participate in the study.

Ethical Considerations

Approval to conduct this study was obtained from Loyola University of Chicago's Institutional Review Board and Rush-Presbyterian-St. Luke's Medical Center Human Investigation Committee. Permission to approach the patients was also obtained from the cardiovascular surgeons at Rush-Presbyterian-St. Luke's Medical Center.

The patients were approached by the investigator and asked to participate in the study. If the patient agreed to participate, the patient was asked to read and sign the Patient Information and Consent Sheet (Appendix E). The signed copy of the Patient Information and Consent Sheet was kept by the investigator. The investigator also signed a copy which she gave to the patient. The patient was told that there were no physical risks involved in participating in the study.

Addressed in the Patient Information and Consent Sheet was the right to: (1) withdraw or not participate in the study, (2) not have to answer sensitive questions, (3) not complete the scale without affecting his/her care while hospitalized, and (4) not have to sign his name to the completed Stressor Scale. Patients were also given the opportunity to question the investigator if they desired. To protect the patient's confidentiality and anonymity, the

patient was asked to place the Stressor Scale in a numbered envelope after he completed the scale. (The number was used only to determine who had returned the Stressor Scale.)

Benefits of the study would be to future patients as stressors associated with CAB surgery are identified. The study will help identify stressors so nurses can plan ways to help reduce stress to future CAB patients.

CHAPTER IV

RESULTS

Data was analyzed to determine: (1) what was the severity of CAB stressors as perceived by patients; (2) what was the severity of CAB stressors as perceived by cardiovascular nurses; (3) was there a significant difference in the severity of the stressors dependent upon who described them; (4) was there a relationship between selected demographic and illness-related variables and the amount of stress experienced by CAB patients; and (5) was there a relationship between selected demographic variables and nurses' perceptions of the stressors experienced by CAB patients?

Descriptive Data

Descriptive data for the stressor scale scores is summarized in Table 1. Total scores for the stressor scale could range between 37 and 185. Total scores for the patients ranged from 37 to 139, with a mean of 84.4 (SD = 24.2). Total scores for the nurses ranged from 80 to 146, with a mean of 119.4 (SD = 17.0). Total scores on the stressor scale for first-time CAB patients ranged from 37 to 139, with a mean of 81.5 (SD = 24.1). Total scores for redo CAB patients ranged from 80 to 124, with a mean of

102.6 (SD = 17.4).

Total severity scores on illness-related items could range from 15 to 75. Total scores on illness-related items for the patients ranged from 15 to 59, with a mean of 36.0 (SD = 10.6). Total scores on the illness-related items for the nurses ranged from 33 to 63, with a mean of 51.7 (SD = 7.0). Total scores on illness-related items for first-time CAB patients ranged from 15 to 59, with a mean of 35.3 (SD = 10.5) and total scores on illness-related items for redo CAB patients ranged from 28 to 55, with a mean of 40.4 (SD = 11.0).

Total severity scores on hospital-related items could range from 22 to 110. Total scores on hospital-related items for patients ranged from 22 to 80, with a mean of 48.4 (SD = 14.9). Total scores on the hospital-related items for nurses ranged from 41 to 83, with a mean of 67.8 (SD = 10.9). Total scores on hospital-related items for first-time CAB patients ranged from 22 to 80, with a mean of 46.2 (SD = 14.4). Total scores on hospital-related items for redo CAB patients ranged from 49 to 72, with a mean of 62.2 (SD = 9.5). Therefore, nurses reported higher stressor scores for CAB patients in all instances than did the patients themselves.

Rank-Order of Stressors

Stressor severity scores were rank-ordered to compare differences between CAB patients and cardiovascular nurses

(Table 2). The five items rated as most stressful by the patients were: (1) having to have surgery (nurses: 1); (2) pain or discomfort (nurses: 6); (3) waiting before surgery (nurses: 5); (4) sleeping poorly (nurses: 7.5); and (5) number of tests performed (nurses: 13). Both patients and nurses ranked discontinuing monitoring equipment as the least stressful item.

Several additional interesting differences between patients and nurses in their perceptions of CAB stressors were as follows: (1) dying as a result of having coronary artery disease or having surgery: patients 8th, nurses 2nd; (2) needing help with various activities: patients 6.5, nurses 19th; (3) discussing concerns with doctors and nurses: patients 19th, nurses 30th; (4) payment of bills: patients 26th, nurses 7.5; (5) loss of income: patients 28th, nurses 4th; (6) being transferred from the intensive care unit: patients 27th, nurses 17th; (7) thought of going home: patients 34th, nurses 24.5; (8) restriction of visitors: patients 35.5, nurses 13th; (9) explanations of hospital routines and procedures: patients 35.5, nurses 26th; (10) having different nurses: patients 23rd, nurses 33rd; and (11) problems other patients were having: patients 23rd, nurses 36th.

Rank-ordering of the severity of the stressors also differed between patients who were having CAB surgery for the first time and redo CAB patients (Table 3).

Interesting differences in the perceived severity of the stressors between the two patient groups were as follows: (1) receiving blood transfusions: first-time CAB patients 8th, redo patients 4th; (2) dying: first-time 6th, redo 28th; (3) how the family was managing at home: first-time 16th, redo 4th; (4) change in diet and eating habits: first-time 14.5, redo 28th; (5) sleeping in a strange or uncomfortable bed: first-time 27th, redo 8th; (6) number of hospital staff seeing you: first-time 34th, redo 16th; (7) being transferred from SICU: first-time 30.5, redo 10.5; (8) problems other patients were having: first-time 26th, redo 13th; (9) payment of bills: first-time 23.5, redo 33.5; and (10) having doctors and nurses discuss you: first-time 30.5, redo 20.5.

T-tests

Independent t-tests were used to determine if there was a significant difference in the perceived severity of stressors dependent upon who identified them. A significant difference was found between patients and nurses on the total stressor score ($t = 6.04$, $df = 55$, $p = .00$). Significant differences in the perception of stressors were found between the patients and the nurses on 28 of the 37 items at the .01 level (Table 4). (A more stringent alpha level of .01 was used because of the multiple testing being done.) Only nine of the stressors

were not significantly different between the patients and the nurses. Means and standard deviations of the stressor items for patients and nurses are also shown in Table 4.

Significant differences in the perception of stressors were found between first-time CAB patients and the nurses on 32 of the 37 items; five of the items were not significant (Table 5). Significant differences in the perception of stressors were found between redo CAB patients and the nurses on only three items; 34 of the items were found not to be significant (Table 6). The findings in the redo patients may have been influenced by the small number of patients in this group.

Analysis of Variance

A two-way ANOVA was done using a 2 x 2 factorial design with group (nurses and CAB patients) and type of stressor (illness-related or hospital-related) as the factors (Table 7). (Proportional scores were used for the subscales due to the number of items on each subscale not being equal.) The results showed a significant main effect between the nurses and patients in their stressor subscale scores ($F = 3.73$, $df = 3/114$, $p = .05$). No interaction effects were noted.

A Scheffe post-hoc comparison test was used to determine which means for the significant main effect in the ANOVA were significantly different. Significant differences ($p = .05$) were found between: (1) patients and

nurses on the illness subscale; and (2) patients and nurses on the hospital subscale (Table 8). The nurses therefore scored significantly higher than the patients on both subscales.

Correlations

Pearson correlations were done to determine if there were significant relationships between stressor scores (total scale, hospital-related, illness-related) and selected patient demographic and illness variables (age, education, New York Heart Association [NYHA] classification [Appendix F], number of myocardial infarctions, date of last myocardial infarction, number of days admitted preoperatively, number of days between catheterization and surgery, and number of days between surgery and discharge). No significant correlations were found at .01.

No significant correlations were found between stressor scores (total scale, hospital-related, or illness-related) and nurse demographic variables (age, original nursing degree received, most recent nursing degree, length of time as Registered Nurse, number of years working with cardiovascular patients, number of years worked on this cardiovascular unit, and level of nursing practice) either (Table 10).

Summary of Findings

A summary of the main findings from this study is as follows:

1. There was a substantial difference in the rank-ordering of stressors between patients and nurses on the following items: needing help with activities of daily living; problems other patients are having; discussing concerns with doctors/nurses; payment of bills; having different nurses; being transferred from SICU; thought of going home; loss of income; and the restriction of visitors.

2. There was a substantial difference in the rank-ordering of stressors between first-time CAB surgery patients and redo CAB surgery patients on the following items: dying as a result of illness or surgery; how their family is managing while the patient is hospitalized; change in diet/eating habits; being transferred from SICU; sleeping in a strange or uncomfortable bed; payment of bills; loss of income; having doctors/nurses discuss you; the number of hospital staff seeing you; and problems that other patients are having.

3. Based on t-tests, there was a significant difference between CAB patients and cardiovascular nurses on the toal stressor score, with the nurses showing the higher score. There were significant differences between nurses and patients on the perceived stressfulness of all

items, except for the following nine: needing help with activities of daily living; problems other patients are having; number of tests performed; sharing a room; how the incision looks; discussing concerns with doctors and nurses; restriction of visitors; sleeping in a strange bed; and different nurses providing care.

4. A two-way ANOVA showed a significant main effect between the patients and nurses on their stressor subscale scores. A Scheffe post-hoc test showed a significant difference between nurses and patients on both the illness subscale and the hospital subscale, with the nurses having the higher scores on each subscale.

5. No significant correlations were found between stressor scores and selected patient demographic and illness variables.

6. No significant correlations were found between stressor scores and nurse demographic variables.

CHAPTER V

DISCUSSION

The overall purpose of the study was to compare patient and nurse perceptions of stressors associated with CAB surgery. Research questions addressed in this study were: (1) what was the severity of stressors as perceived by CAB patients; (2) what was the severity of stressors as perceived by cardiovascular nurses; (3) was there a significant difference in the severity of stressors dependent upon who described them; (4) was there a relationship between selected demographic and illness-related variables and the amount of stress experienced by CAB patients; and (5) was there a relationship between selected demographic variables and nurses' perceptions of the stressors experienced by CAB patients?

Significant differences were found in the perceived severity of stressors between patients and nurses, with nurses reporting higher mean scores on most stressor items. This concurs with Carr and Powers' (1986) study which found that nurses rated stressors higher than CAB patients did. Carr and Powers suggest:

> This is undoubtedly related to the idiosyncratic perspective the patients used in deciding on their stressfulness ratings, in contrast to the broader basis of comparison used by the nurses. Findings might have differed had the nurses been asked to rate specific

> patients under their care at that point in time. (p. 245)

Davis (1978) also documented that higher stressor scores were found in nurses than patients. This may be a result of low stress perception by patients.

Patients and nurses both identified having to have CAB surgery as causing the greatest amount of stress. This concurs with Carr and Powers' (1986) study. Patients in other studies also ranked having a serious illness or being admitted to the coronary care unit as being the most stressful item (Davis, 1978; O'Malley & Menke, 1988). Patients ranked dying from their surgery or illness lower than the nurses. This differs from Carr and Powers' (1986) study. This may be a result of CAB surgery being done more frequently today; therefore people being more aware of CAB surgery and of its usually successful outcome.

Patients in this study ranked needing help with activities of daily living much higher in stressfulness than did the nurses or patients in Carr and Powers' study (1986). This may be partially related to the different time periods for data collection in the two studies: 4 to 6 days postoperatively in this study when patients may still have needed more help, as opposed to Carr and Powers who collected their data 8 to 10 days post-operatively.

Patients in this study identified the number of tests performed on them as causing greater stress than did the nurses. This may also be partially related to the data

collection time because patients were still being watched closely for any complications and thus were still having frequent blood drawings and other tests. This concurs with Davis' (1978) study in which patients rated the number of blood samples taken as very stressful.

Patients also ranked discussing concerns with nurses and doctors higher in stressfulness than did nurses. This correlates with other investigators who reported similar findings (Baldree, Murphy, & Powers, 1982; Hoffman, Donckers, & Hauser, 1978; Volicer, 1973; Volicer & Burns, 1977; Wilson, 1987).

Loss of income was ranked lower by patients than nurses in this study, and also lower than patients in Carr and Powers' (1986) study. This may be a result of the majority (94%) of the patients in this study having insurance and thus not being as concerned about financial problems.

There is conflicting data on how much stress is caused by restriction of visitors. Patients ranked this item as one of the least stressful (35.5), which is supported by Carr and Powers (1986), Davis (1978), O'Malley and Menke (1988), and Wilson (1987). On the other hand, Hoffman, Donckers, and Hauser (1978) and Volicer (1973) identified this item as a substantial stressor in their patient groups.

Dying as a result of their illness or surgery was a

much greater concern for first-time CAB patients (6th) than for redo patients (16th). This is probably related to the redo patients already having had this surgery before and surviving.

Change in diet and eating habits was ranked much lower in redo CAB patients than in initial CAB patients. Redo patients have often undergone diet changes after their first CAB surgery. Therefore, they have dealt with this before and apparently feel they can handle it.

How their family is managing while they are hospitalized is more stressful for redo patients than for first-time CAB patients. This may be because first-time patients are so concerned about the surgery and what's going to happen to them that they are focusing less on outside matters like their family. How the family is managing is also supported as a high stressor by Hoffman, Donckers, and Hauser (1978) and Volicer (1973).

Problems other patients were having was ranked 13th by redo patients and 27th by first-time CAB patients. This may be a result of redo patients having previously had this surgery so other stressors are not as great. Also, redo patients may be more conscious of possibilities of complications and that the complications could affect them also. Having moderate concern about problems other patients are having is also documented by Carr and Powers (1986).

Being transferred from SICU was more stressful to redo CAB patients (10.5) than to first-time CAB patients (30.5). The patients may feel they are still too sick to be transferred to another unit. Also, redo patients may have remembered how sick they still felt after being transferred the previous time they had surgery, and therefore knew what they would have to deal with. Many patients however experienced relief upon transfer out of the SICU.

A two-way ANOVA showed a significant main effect between nurses and patients on their stressor subscale scores; thus, the nurses had significantly higher scores on both the illness and hospital subscales. This concurs with Carr and Powers (1986). There was no interaction effect either, which also concurs with Carr and Powers.

There were no significant correlations between stressor scores and age, years of education, NYHA classification, number of myocardial infarctions, number of days admitted preoperatively, number of days between catheterization and surgery, or number of days between surgery and discharge. Logically, significant relationships were expected between stressor scores and some of the illness-related variables, but none of these were found. Also, no significant correlations were found between stressor scores and nurse demographic variables.

Limitations of Study

There were three major limitations of the study. One was the use of volunteers. This may bias results since patients who were possibly experiencing high levels of stress may have refused to participate in the study. A second limitation was the collection of data in a tertiary care medical center; patients were referred to this medical center by other hospitals because they were potentially sicker or more complications were expected. Patients who have CAB surgery in community hospitals may have different levels of stress since these patients are expected to have fewer complications. The final limitation identified was the use of patients with uncomplicated post-operative courses. Patients who have had complications may experience different stressors and different levels of stress.

Implications of Study

There are three implications for nurses resulting from this study. The most important implication will be the identification of significant stressors by CAB patients. This will allow nurses to plan appropriate interventions to help patients deal with these stressors better. With the shortened hospital stay, the nurse has less time to work with inpatients so the quality of a nurse's interaction becomes even more important. Another implication is the results of the comparison between patient and nurse identified stressors. Nurses and patients are not

identifying the same items as being stressful. Therefore, nurses need to individually assess each patient so they can plan interventions appropriate to patient-identified stressors, and thus help to decrease the level of stress these patients are experiencing.

REFERENCES

American Heart Association (1988). 1988 heart facts. (Available from American Heart Association, 7320 Greenville Avenue, Dallas, Texas 75231.)

Baldree, K. S., Murphy, S. P., & Powers, M. J. (1982). Stress identification and coping patterns in patients on hemodialysis. Nursing Research, 31, 107-112.

Carr, J. A., & Powers, M. J. (1986). Stressors associated with coronary artery bypass surgery. Nursing Research, 35, 243-246.

Davis, B. (1978). The expanded measurement of patients' psychological stress responses to being in the coronary care unit. Military Medicine, 143(3), 203-224.

Hoffman, M., Donckers, S., & Hauser, M. (1978). The effect of nursing interventions on stress factors perceived by patients in a coronary care unit. Heart & Lung, 7, 804-809.

Lazarus, R. S. (1966). Psychological stress and the coping process. New York: McGraw-Hill.

Lazarus, R. S., & Folkman, S. (1984). Stress, appraisal, and coping. New York: Springer.

O'Malley, P. A., & Menke, E. (1988). Relationship of hope and stress after myocardial infarction. Heart & Lung, 17, 184-190.

Selye, H. (1965). The stress syndrome. The American Journal of Nursing, 65(3), 97-99.

Stanton, B. A., Jenkins, C. D., Savageau, J. A., Harken, D. E., & Aucoin, R. (1984). Perceived adequacy of patient education and fears and adjustments after cardiac surgery. Heart & Lung, 13, 525-531.

Volicer, B. J. (1973). Perceived stress levels on events associated with the experience of hospitalization: development and testing of a measurement tool. Nursing Research, 22, 491-497.

Volicer, B. J. (1974). Patients' perceptions of stressful events associated with hospitalization. Nursing Research, 23, 235-238.

Volicer, B. J., & Burns, M. W. (1977). Pre-existing correlates of hospital stress. Nursing Research, 26, 408-415.

Wilson, V. S. (1987). Identification of stressors related to patients' psychologic responses to the surgical intensive care unit. Heart & Lung, 16, 267-273.

Table 1

MEANS AND STANDARD DEVIATIONS FOR STRESSOR SCORES FOR CAB PATIENTS AND CARDIOVASCULAR NURSES

Score	All Patients[a]		First-time Patients[b]		Redo Patients[c]		Nurses[d]	
	M	SD	M	SD	M	SD	M	SD
Total score[e]	84.4	24.2	81.5	24.1	102.6	17.4	119.4	17.0
Illness subscale[f]	36.0	10.6	35.3	10.5	40.4	11.0	51.7	7.0
Hospital subscale[g]	48.4	14.9	46.2	14.4	62.2	9.5	67.8	10.9

[a] N = 36.

[b] N = 31.

[c] N = 5.

[d] N = 23.

[e] Possible total scale score = 37-185.

[f] Possible illness subscale score = 15-75.

[g] Possible hospital subscale score = 22-110.

Table 2

RANK-ORDERING OF SEVERITY OF CAB STRESSORS

BY PATIENTS (N = 36) AND NURSES (N = 23)

Stressors	Patients	Nurses
Having to have surgery	1	1
Pain/discomfort	2	6
Wait before surgery	3	5
Sleeping poorly	4	7.5
Number of tests performed	5	13
Receiving blood transfusions	6.5	3
Needing help with ADLs	6.5	19
Dying from surgery/illness	8	2
Being away from home/business	9	9
Sharing a room	10	13
Resuming previous lifestyle	11	15.5
How family is managing	12	10
How incision looks	13	22.5
Depending on others when go home	14	18
Needing pain meds	15	11
Change in diet/eating habits	16	24.5
Having cardiac monitors/equipment	17.5	15.5
Following hospital schedule	17.5	20.5
Discussing concerns with Drs./nurses	19	30
Increasing activity	20.5	28
Sleep in strange/uncomfortable bed	20.5	26.5
Not having objects within reach	23	22.5
Problems other pts. are having	23	36
Having different nurses	23	33
Your progress	25	20.5
Paying bills	26	7.5
Being transferred from ICU	27	17
Income loss	28	4
Having Drs./nurses discuss you	29	33
Resuming sexual activity	30	30
Number of hospital staff	31.5	33
Taking meds	31.5	35
Call light being answered	33	30
Thought of going home	34	24.5
Restricted visitors	35.5	13
Explanation of routine/procedures	35.5	26.5
Discontinuing monitoring equipment	37	37

Table 3

RANK-ORDERING OF SEVERITY OF CAB STRESSORS BY FIRST-TIME CAB PATIENTS (N = 31) AND REDO CAB PATIENTS (N = 5)

Stressors	First-Time CAB	Redo CAB
Having to have surgery	1	1
Pain/discomfort	2	8
Wait before surgery	3	4
Sleeping poorly	4.5	4
Needing help with ADLs	4.5	13
Dying from surgery/illness	6	28
Number of tests performed	7	4
Receiving blood transfusion	8	4
Being away from home/busine	9	10.5
Sharing a room	10.5	8
Resuming previous lifestyle	10.5	16
Depending on others when go home	12	20.5
How incision looks	13	13
Needing pain meds	14.5	20.5
Change in diet/eating habits	14.5	28
How family is managing	16	4
Having cardiac monitors/equipment	17.5	20.5
Following hospital schedule	17.5	20.5
Discussing concerns with Drs./nurses	19	28
Not having objects within reach	20.5	28
Income loss	20.5	37
Increase activity	23.5	16
Having different nurses	23.5	20.5
Your progress	23.5	28
Pay bills	23.5	33.5
Problems other pts. are having	26	13
Sleep in strange/uncomfortable bed	27	8
Resuming sexual activity	28.5	33.5
Thought of going home	28.5	36
Being transferred from ICU	30.5	10.5
Having Drs./nurses discuss you	30.5	20.5
Taking meds	32	28
Call light being answered	33	28
Number of hospital staff	34	16
Restrict visitors	35.5	28
Explanation of routine/procedures	35.5	28
Discontinuing monitoring equipment	37	35

Table 4

MEANS, STANDARD DEVIATIONS, AND T-TESTS FOR STRESSOR ITEMS FOR CAB PATIENTS (N = 36) AND CARDIOVASCULAR NURSES (N = 23)

	Patients		Nurses			
Stressor	M[a]	SD	M[a]	SD	t[b]	p
Income loss	1.97	1.38	4.09	.90	6.50	.000
Dying--surgery/illness	2.67	1.35	4.52	.73	6.03	.000
Thought of going home	1.81	1.01	3.04	.77	5.02	.000
Paying bills	2.06	1.33	3.65	.94	5.01	.000
Receiving blood	2.78	1.33	4.30	.82	4.92	.000
Having monitors	2.22	.99	3.30	.64	4.66	.000
Transfer from ICU	2.00	1.07	3.22	.90	4.52	.000
Explanation of routine	1.72	.91	2.87	1.10	4.34	.000
Objects not in reach	2.11	1.01	3.09	.85	3.85	.000
Having to have surgery	3.61	1.32	4.70	.64	3.68	.001
Resuming sex	1.89	1.06	2.78	.67	3.59	.001
Call light not answered	1.83	.94	2.78	1.09	3.56	.001
Your progress	2.08	1.23	3.13	.87	3.56	.001
Needing pain meds	2.31	1.33	3.39	.89	3.45	.001
Number of staff	1.86	1.07	2.74	.75	3.42	.001
Discontinue monitors	1.61	.80	2.30	.77	3.29	.002
Depend on others	2.36	1.18	3.26	.75	3.27	.002
How family managing	2.15	1.30	3.44	.99	3.21	.002
Drs./Nurses discuss you	1.92	1.00	2.74	.92	3.19	.002
Pain/discomfort	3.03	1.13	3.87	.82	3.08	.003
Wait before surgery	3.00	1.41	4.00	.91	3.01	.004

Table 4 (continued)

MEANS, STANDARD DEVIATIONS, AND T-TESTS FOR STRESSOR ITEMS FOR CAB PATIENTS (N = 36) AND CARDIOVASCULAR NURSES (N = 23)

Stressor	Patients M[a]	Patients SD	Nurses M[a]	Nurses SD	t[b]	p
Sleeping poorly	2.86	1.07	3.65	.83	3.00	.004
Hospital schedule	2.22	1.17	3.13	1.10	2.97	.004
Diet/eating habits	2.28	1.09	3.04	.78	2.94	.005
Resuming lifestyle	2.44	1.23	3.30	.88	2.91	.005
Away from home/business	2.61	1.29	3.48	.85	2.85	.006
Taking meds	1.86	1.02	2.57	.84	2.76	.008
Increase activity	2.14	1.02	2.83	.89	2.65	.010
Restrict visitors	1.72	1.00	2.35	.83	2.49	.016
Sleep in strange bed	2.14	1.25	2.87	.82	2.49	.016
Different nurses	2.11	1.04	2.74	.81	2.46	.017
Sharing a room	2.53	1.56	3.35	1.07	2.21	.031
How incision looks	2.39	1.32	3.09	1.00	2.18	.034
Discussing concerns	2.17	1.23	2.78	.79	2.13	.038
Number of tests	2.81	1.39	3.35	1.03	1.61	.113
Problems of other pts.	2.11	1.41	2.52	.84	1.48	.143
Needing help with ADLs	2.78	1.27	3.17	.78	1.34	.184

[a] Rating on items could range from 1 to 5.
[b] df = 57.

Table 5

MEANS, STANDARD DEVIATIONS, AND T-TESTS FOR STRESSOR ITEMS FOR FIRST-TIME CAB PATIENTS (N = 31) AND CARDIOVASCULAR NURSES (N = 23)

Stressor	First-Time Patients M[a]	First-Time Patients SD	Nurses M[a]	Nurses SD	t[b]	p
Income loss	2.07	1.44	4.09	.90	5.94	.000
Dying--surgery/illness	2.71	1.35	4.52	.73	5.84	.000
Transfer from ICU	1.81	.87	3.22	.90	5.79	.000
Receiving blood	2.65	1.33	4.30	.82	5.27	.000
Paying bills	2.03	1.30	3.65	.94	5.07	.000
Explanation of routine	1.61	.84	2.87	1.10	4.75	.000
Thought of going home	1.84	1.04	3.04	.77	4.70	.000
Having monitors	2.16	1.04	3.30	.64	4.67	.000
Number of staff	1.71	.97	2.74	.75	4.22	.000
How family managing	2.23	1.26	3.44	.99	3.81	.000
Having to have surgery	3.55	1.34	4.70	.64	3.80	.000
Objects not in reach	2.07	1.06	3.09	.85	3.80	.000
Call light not answered	1.74	.93	2.78	1.09	3.79	.000
Resuming sex	1.84	1.10	2.78	.67	3.64	.001
Drs./Nurses discuss you	1.81	.95	2.74	.92	3.63	.001
Your progress	2.03	1.25	3.13	.87	3.61	.001
Discontinue monitors	1.55	.77	2.30	.77	3.58	.001
Sleeping poorly	2.74	1.03	3.65	.83	3.47	.001
Needing pain meds	2.26	1.37	3.39	.89	3.47	.001
Sleep in strange bed	1.94	1.12	2.87	.82	3.38	.001
Wait before surgery	2.90	1.38	4.00	.91	3.32	.002

Table 5 (continued)

MEANS, STANDARD DEVIATIONS, AND T-TESTS FOR STRESSOR ITEMS FOR FIRST-TIME CAB PATIENTS (N = 31) AND CARDIOVASCULAR NURSES (N = 23)

Stressor	First-Time Patients M[a]	First-Time Patients SD	Nurses M[a]	Nurses SD	t[b]	p
Depend on others	2.32	1.19	3.26	.75	3.32	.002
Pain/discomfort	2.97	1.14	3.87	.82	3.23	.002
Taking meds	1.77	.99	2.57	.84	3.09	.003
Increase activity	2.30	.98	2.83	.89	3.06	.004
Hospital schedule	2.16	1.21	3.13	1.10	3.02	.004
Away from home/business	2.52	1.34	3.48	.85	3.02	.004
Resuming lifestyle	2.39	1.26	3.30	.88	3.00	.004
Restrict visitors	1.61	.96	2.35	.83	2.95	.005
Diet/eating habits	2.26	1.13	3.04	.78	2.88	.006
Sharing a room	2.39	1.43	3.35	1.07	2.71	.009
Different nurses	2.03	1.05	2.74	.81	2.69	.010
How incision looks	2.29	1.22	3.09	1.00	2.57	.013
Discussing concerns	2.13	1.26	2.78	.79	2.19	.033
Problems of other pts.	2.00	1.05	2.52	.84	2.08	.042
Number of tests	2.68	1.45	3.35	1.03	1.98	.064
Needing help with ADLs	2.74	1.29	3.17	.78	1.42	.161

[a] Rating on items could range from 1 to 5.
[b] df = 52.

Table 6

MEANS, STANDARD DEVIATIONS, AND T-TESTS FOR STRESSOR ITEMS FOR REDO CAB PATIENTS (N = 5) AND CARDIOVASCULAR NURSES (N = 23)

	Redo Patients		Nurses			
Stressor	M[a]	SD	M[a]	SD	t[b]	p
Income loss	1.40	.90	4.09	.90	6.06	.000
Dying--surgery/illness	2.40	1.52	4.52	.73	4.79	.000
Thought of going home	1.60	.89	3.04	.77	3.71	.001
Paying bills	2.20	1.64	3.65	.94	2.74	.011
Having monitors	2.60	.55	3.30	.64	2.29	.030
Having to have surgery	4.00	1.23	4.70	.64	1.86	.074
Needing pain meds	2.60	1.14	3.39	.89	1.72	.098
Objects not in reach	2.40	.55	3.09	.85	1.72	.097
Resuming sex	2.20	.84	2.78	.67	1.69	.103
Diet/eating habits	2.40	.89	3.04	.78	1.65	.110
Depend on others	2.60	1.14	3.26	.75	1.63	.116
Your progress	2.40	1.14	3.13	.87	1.62	.118
Receiving blood	3.60	.84	4.30	.82	1.62	.116
Sleep in strange bed	3.40	1.34	2.87	.82	1.17	.251
Resuming lifestyle	2.80	1.10	3.30	.88	1.12	.273
Pain/discomfort	3.40	1.14	3.87	.82	1.09	.286
Problems of other pts.	3.00	1.41	2.52	.84	1.01	.320
Hospital schedule	2.60	.90	3.13	1.10	1.00	.325
Discussing concerns	2.40	1.14	2.78	.79	.90	.374
Explanation of routine	2.40	1.14	2.87	1.10	.86	.397
Discontinue monitors	2.00	1.00	2.30	.77	.77	.451

Table 6 (continued)

MEANS, STANDARD DEVIATIONS, AND T-TESTS FOR STRESSOR ITEMS FOR REDO CAB PATIENTS (N = 5) AND CARDIOVASCULAR NURSES (N = 23)

	Redo Patients		Nurses			
Stressor	M[a]	SD	M[a]	SD	t[b]	p
Wait before surgery	3.60	1.67	4.00	.91	.76	.451
Call light not answered	2.40	.89	2.78	1.09	.73	.470
Away from home/business	3.20	.84	3.48	.85	.67	.510
Number of tests	3.60	.55	3.35	1.03	.53	.602
Needing help with ADLs	3.00	1.23	3.17	.78	.41	.686
Taking meds	2.40	1.14	2.57	.84	.37	.712
Different nurses	2.60	.89	2.74	.81	.34	.735
How family managing	3.60	.89	3.44	.99	.34	.735
Drs./Nurses discuss you	2.60	1.14	2.74	.92	.30	.770
How incision looks	3.00	1.87	3.09	1.00	.15	.882
Number of staff	2.80	1.30	2.74	.75	.14	.887
Sleeping poorly	3.60	1.14	3.65	.83	.12	.906
Restrict visitors	2.40	1.14	2.35	.83	.12	.906
Sharing a room	3.40	2.19	3.35	1.07	.08	.936
Increase activity	2.80	1.10	2.83	.89	.06	.995
Transfer from ICU	3.20	1.48	3.22	.90	.03	.973

[a]Rating on items could range from 1 to 5.
[b]df = 26.

Table 7

TWO-WAY ANALYSIS OF VARIANCE ON STRESSOR SUBSCALE SCORES FOR CAB PATIENTS (N = 36) AND CARDIOVASCULAR NURSES (N = 23)

	df	SS	MS	F
Between groups	3	1.13	.38	24.61
Within groups	114	1.74	.02	
Total	117	2.87		

	F	p
By subscale score	.01	.93
By group	3.73	.05
Score x group	.51	.48

Table 8

CRITICAL DIFFERENCE VALUES ON SCHEFFE TEST FOR SIGNIFICANT MAIN EFFECTS BETWEEN CAB PATIENTS AND CARDIOVASCULAR NURSES

	Nurse Illness Subscale	Nurse Hospital Subscale	Patient Illness Subscale	Patient Hospital Subscale
Nurse Illness Subscale	-	NS	.209*	NS
Nurse Hospital Subscale	-	-	NS	.176*
Patient Illness Subscale	-	-	-	NS
Patient Hospital Subscale	-	-	-	-

Note: Critical difference criterion = .115.
*p = .05.

Table 9

CORRELATIONS BETWEEN STRESSOR SCORES AND DEMOGRAPHIC AND ILLNESS VARIABLES FOR CAB PATIENTS (N = 36)

Demographic and Illness Variables	Stressor Scores		
	Total Scale	Hospital Subscale	Illness Subscale
Age	.20 (p=.25)	.27 (p=.12)	.08 (p=.65)
Years of education	.00 (p=1.0)	.07 (p=.67)	-.10 (p=.55)
NYHA classification	-.30 (p=.08)	-.29 (p=.09)	-.28 (p=.10)
Number of myocardial infarctions	1.16 (p=.34)	.22 (p=.20)	.07 (p=.70)
Date of last myocardial infarction	-.19 (p=.27)	-.21 (p=.21)	-.13 (p=.45)
Days admitted preoperatively	.17 (p=.31)	.13 (p=.44)	.21 (p=.22)
Days between catheterization & surgery	.07 (p=.67)	.04 (p=.82)	.12 (p=.50)
Days between surgery & discharge	-.02 (p=.89)	.02 (p=.91)	-.08 (p=.64)

Table 10

CORRELATIONS BETWEEN STRESSOR SCORES AND DEMOGRAPHIC VARIABLES FOR CARDIOVASCULAR NURSES (N = 23)

Demographic Variables	Stressor Scores		
	Total Score	Hospital Subscale	Illness Subscale
Age	.04 (p=.87)	.01 (p=.95)	.05 (p=.83)
Original nursing degress received	.14 (p=.52)	.14 (p=.52)	.12 (p=.57)
Most recent nursing degree received	.13 (p=.57)	.00 (p=.99)	.20 (p=.37)
Length of time employed as RN	-.09 (p=.70)	-.14 (p=.52)	-.04 (p=.85)
Years of cardiovascular experience	.04 (p=.86)	.00 (p=.98)	.06 (p=.77)
Years of experience on this unit	.03 (p=.88)	-.02 (p=.93)	.06 (p=.77)
Level of nursing practice	.04 (p=.84)	.02 (p=.93)	.05 (p=.81)

APPENDIX A

Modified Carr Stressor Scale

This questionnaire lists situations that sometimes are stressful to patients who have cardiac surgery. Please use the following rating scale to circle the number which best indicates how much stress each item has caused you while in the hospital.

1 - no stress at all

2 - a little stress

3 - a moderate amount of stress

4 - a lot of stress

5 - an excessive amount of stress

For example, having to wait in line at the grocery store or bank would cause some people a great deal of stress; others it wouldn't cause any stress. If having to wait in line has caused a moderate amount of stress, you would circle #3, as shown in the example below.

	No stress				Excessive stress
Waiting in line at the grocery store or bank	1	2	3	4	5

Please circle <u>one</u> response for <u>every</u> situation.

How much stress have you felt because of each of the following while in the hospital?

	No Stress				Excessive Stress
1. Increasing your physical activity	1	2	3	4	5
2. Paying hospital and medical bills	1	2	3	4	5
3. Having visitors only during certain hours	1	2	3	4	5
4. Resuming your normal life style	1	2	3	4	5
5. Following a hospital schedule rather than your own	1	2	3	4	5
6. Loss of income because of your illness	1	2	3	4	5
7. Not having things within easy reach, like the call light, telephone, water pitcher	1	2	3	4	5
8. The progress you are making	1	2	3	4	5
9. Your call light being answered	1	2	3	4	5
10. Thinking about how your family is managing while you're in the hospital	1	2	3	4	5
11. Sleeping in a strange or uncomfortable bed	1	2	3	4	5
12. Explanations of hospital routines and procedures	1	2	3	4	5
13. Sharing a room with another patient	1	2	3	4	5
14. Needing help with various activities, like bathing, getting out of bed, using the bedpan or urinal	1	2	3	4	5

15. Different nurses caring for you	1	2	3	4	5
16. Resuming sexual activity	1	2	3	4	5
17. Having doctors or nurses discuss you or other patients	1	2	3	4	5
18. Pain or discomfort	1	2	3	4	5
19. Sleeping poorly	1	2	3	4	5
20. Cardiac monitors and other equipment	1	2	3	4	5
21. Needing pain medicine	1	2	3	4	5
22. Having to have cardiac surgery	1	2	3	4	5
23. Problems that other patients are having	1	2	3	4	5
24. Dying because of your illness or surgery	1	2	3	4	5
25. Being transferred from the intensive care unit	1	2	3	4	5
26. Discussing your concerns about surgery with doctors or nurses	1	2	3	4	5
27. The waiting period before the actual surgery	1	2	3	4	5
28. Having the monitoring equipment discontinued	1	2	3	4	5
29. So many hospital staff seeing you	1	2	3	4	5
30. Thought of going home	1	2	3	4	5
31. Taking medications	1	2	3	4	5
32. Change in diet and eating habits	1	2	3	4	5
33. Being away from home and/or business	1	2	3	4	5
34. Receiving blood transfusions	1	2	3	4	5
35. The number of tests performed	1	2	3	4	5

36. How the incision looks	1	2	3	4	5
37. Worrying about having to depend on others when you go home	1	2	3	4	5

If there is anything that you have felt has caused you stress during your hospitalization that is not on the list, please add it in the following space(s) and circle the number which corresponds to the amount of stress it has caused you.

38. _____	1	2	3	4	5
39. _____	1	2	3	4	5
40. _____	1	2	3	4	5

Thank you very much for filling out the questionnaire. Please place it in the envelope provided, seal the envelope, and if I'm not present, ask your nurse to place it in the mailbox on Barb Martin's door for me to pick up later.

APPENDIX B

Patient Data Sheet

1. Patient Code Number _____
2. Sex Male __ Female __
3. Age _____
4. Marital Status M S W D
5. Race _____
6. Occupation _____
7. Years of formal education _____
8. NYHA Classification I II III IV
9. Type(s) of graft Mammary __Saphenous__Both __
10. # of days between catheterization and surgery_____
11. # of days admitted to hospital preoperatively ____
12. # of hours in SICU postoperatively _____
13. # of days between surgery and discharge _____

APPENDIX C

Nurse Information and Consent Sheet

Dear Nurse of 9 Kellogg,

For my master's degree thesis at Loyola University, I am studying the types of stressors associated with coronary artery bypass surgery. In the past several weeks, I have collected data on stressors from patients who have undergone coronary artery bypass surgery. I am currently interested in determining those situations or items that nurses feel are stressors to patients who have had coronary artery bypass surgery. You are being asked to participate in the study by filling out a stressor scale. The scale lists situations that may cause stress to those patients who have undergone coronary artery bypass surgery. Please mark the answers to the amount of stress that you feel is associated with each item using your overall experience with coronary artery bypass patients--not only with the patients you are presently working with. This stressor scale should take less than 15 minutes to fill out. Please also complete the demographic data sheet enclosed.

There will be no foreseeable risks to you from participation in this study. Your job will not be affected if you decide not to participate. The demographic data will only be used to see if there is any correlation between your answers on the stressor scale and items on the demographic sheet.

Potential benefits will be to future coronary artery bypass patients as stressors are identified and appropriate interventions are planned by nurses. Any questions you may have will be answered to the best of the investigator's ability. Thank you for your help and time in filling out the scale.

_____
Investigator

I have read and understand the information on this sheet. I have volunteered to participate based on this information.

Date _____ Name _____

APPENDIX D

Nurses' Demographic Data Sheet

1. Age _____
2. Sex Male ___ Female ___
3. Marital Status _____
4. Basic nursing degree _____
5. Most recent degree _____
6. How long have you been an RN? _____
7. Number of years of cardiovascular nursing experience _____
8. Number of years you have worked on 9 Kellogg _____
9. Current level on clinical nursing ladder A B C D

APPENDIX E

PATIENT INFORMATION SHEET

Dear Patient,

The purpose of this study is to determine the types of stressors associated with coronary artery bypass surgery. You are being asked to participate in the study by filling out a questionnaire. The questionnaire lists situations that sometimes cause stress to patients who have open-heart surgery. This questionnaire should take less than 30 minutes to complete.

There are no physical risks involved in participating in this study. Some of the questions may cause some stress or distress to you. You may elect to withdraw from this project at any time without prejudice. Your care will not be affected if you decide not to participate in the study.

Potential benefits will be to future patients as stressors associated with coronary artery bypass surgery are identified. This study will help identify stressors so nurses can plan ways to help you reduce stress. Any questions you may have will be answered to the best of the investigator's ability. Thank you for your help and time in filling out the questionnaire.

PATIENT CONSENT FORM

I acknowledge that Jennifer Troutman has fully explained to me the risks involved in this study and the

need for the research: has told me that I may withdraw from the study at any time without affecting my care; has offered to answer any questions I may have about the study; and has told me that I will be given a copy of this consent form.

I understand that biomedical or behavioral research such as that in which I have agreed to participate, by its nature, involves risk of injury. In the event of physical injury resulting from these research procedures, emergency medical treatment will be provided at no cost, in accordance with the policy of Loyola University Medical Center. No additional free medical treatment or compensation will be provided except as required by Illinois law.

In the event I believe that I have suffered any physical injury as the result of participation in the research program, I may contact David Ozar, Ph.D., Chairman of the Institutional Review Board for the Protection of Human Subjects for the Lake Shore and Water Tower Campuses of Loyola University, telephone (312) 274-3000.

I freely and voluntarily consent to my participation in the research project.

_____ _____

(Signature of Investigator) (Signature of Patient)

_____

Date

APPENDIX F

New York Heart Association Functional Classification

This is a classification of patients with heart disease based on the relationship between the amount of effort required to provoke symptoms as follows;

Class I No limitation of physical activity: Ordinary physical activity does not cause undue fatigue, dyspnea, or palpitation.

Class II Slight limitation of physical activity: Patients are comfortable at rest but ordinary physical activity results in fatigue, palpitation, dyspnea, or angina.

Class III Marked limitation of physical activity: Patients are comfortable at rest but less than ordinary activity will lead to symptoms.

Class IV Inability to carry on any physical activity without discomfort: Symptoms of congestive heart failure are present even at rest; with physical activity, increased discomfort is experienced.

APPROVAL SHEET

The thesis submitted by Jennifer Troutman has been read and approved by the following committee:

Dr. Anne Jalowiec, Director
Assistant Professor, Nursing, Loyola

Ms. Judith Jennrich
Assistant Professor, Nursing, Loyola

The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the thesis is now given final approval by the Committee with reference to content and form.

The thesis is therefore accepted in partial fulfillment of the requirements for the degree of Master of Science in Nursing.

12-5-88
Date

Anne Jalowiec RN, PhD
Director's Signature